



# *United Kingdom of Great Britain and Northern Ireland*

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BS NA EN 1993-1-2 (2005) (English): UK National  
Annex to Eurocode 3. Design of steel structures.  
General rules. Structural fire design

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MAGNA CARTA (1297)

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NA to BS EN 1993-1-2:2005



BSI Standards Publication

# **UK National Annex to Eurocode 3: Design of steel structures**

## **Part 1-2: General rules – Structural fire design**

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National Annex (informative)

## to BS EN 1993-1-2: 2005, Eurocode 3: Design of steel structures – Part 1-2: General rules – Structural fire design

### Introduction

This National Annex has been prepared by BSI Subcommittee B/525/31, *Structural use of steel*. It is to be used in conjunction with BS EN 1993-1-2:2005.

### NA.1 Scope

This National Annex gives:

- a) the decisions for the National Determined Parameters described in the following sub clauses of BS EN 1993-1-2:2005:
  - 2.3(1)
  - 2.3(2)
  - 4.1(2)
  - 4.2.3.6(1)
  - 4.2.4(2)
- b) The decisions on the status of BS EN 1993-1-2:2005 informative annexes; and
- c) References to non-contradictory complementary information.

### NA.2 Nationally Determined Parameters

#### NA.2.1 General

The decisions for the Nationally Determined Parameters described in BS EN 1993-1-2:2005 are given in clauses NA.2.2 to NA.2.6.

#### NA.2.2 Partial factor for the fire situation – Mechanical properties, $\gamma_{M,fi}$ [BS EN 1993-1-2:2005, 2.3(1)]

Use the recommended value.

#### NA.2.3 Partial factor for the fire situation – Thermal properties, $\gamma_{M,fi}$ [BS EN 1993-1-2:2005, 2.3(2)]

Use the recommended value.

#### NA.2.4 Use of advanced calculation models [BS EN 1993-1-2:2005, 4.1(2)]

Advanced calculation models may be used.

#### NA.2.5 Limiting temperature for Class 4 cross-sections [BS EN 1993-1-2:2005, 4.2.3.6(1)]

Use the recommended value.

### NA.2.6 Table 4.1- default values for critical temperatures [BS EN 1993-1-2:2005, 4.2.4(2)]

The critical temperatures given in Table NA.1 should be used.

Table NA.1 Default values for critical temperatures

Description of member	Critical temperature (°C) for utilization factor $\mu_0$					
	0.7	0.6	0.5	0.4	0.3	0.2
a) Compression members:						
Non-dimensional slenderness, $\bar{\lambda} = 0.4$	485	526	562	598	646	694
$\bar{\lambda} = 0.6$	470	518	554	590	637	686
$\bar{\lambda} = 0.8$	451	510	546	583	627	678
$\bar{\lambda} = 1.0$	434	505	541	577	619	672
$\bar{\lambda} = 1.2$	422	502	538	573	614	668
$\bar{\lambda} = 1.4$	415	500	536	572	611	666
$\bar{\lambda} = 1.6$	411	500	535	571	610	665
b) Protected beam supporting concrete slabs or composite slabs	558	587	619	654	690	750
c) Unprotected beam supporting concrete slabs or composite slabs	594	621	650	670	717	775
d) Beam not supporting concrete slabs and members in tension	526	558	590	629	671	725

## NA.3 Decisions on the status of informative annexes

### NA.3.1 BS EN 1993-1-2:2005, Annex C

BS EN 1993-1-2:2005, Annex C may be used.

### NA.3.2 BS EN 1993-1-2:2005, Annex D

BS EN 1993-1-2:2005, Annex D should not be used. An alternative to Annex D is given in the references to supporting non-contradictory, complementary information in NA.4.

### NA.3.3 BS EN 1993-1-2:2005, Annex E

BS EN 1993-1-2:2005, Annex E may be used.

## NA.4 References to non-contradictory complementary information

References to the non-contradictory complementary information cited in this National Annex can be found at [www.steel-ncci.co.uk](http://www.steel-ncci.co.uk)<sup>1)</sup>.

<sup>1)</sup> In preparation





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